

In the Drawings

Figure 1 change label "MP" to "MPU."

REMARKS

The claims are claims 1, 4 to 7, 10, 11, 12 and 14 to 26.

The application has been amended at many locations to correct minor errors and to present uniform language throughout. The amendments include correction of the error noted by the Examiner.

Attached is a substitute drawing sheet 1 including the drawing correction required by the Examiner.

Claims 1, 4, 7, 10 and 12 are amended. Claims 2, 3, 8, 9 and 13 are canceled. New claims 14 to 26 are added. Claim 1 is amended to incorporate the counters recited in canceled claim 2 and further amended to recite hardware activity signals counted by the counter. Claim 4 is amended to incorporate the limitations of canceled claim 3 and to recite periodically updating the energy profile on a period of T. Claim 7 is amended to incorporate the counters recited in canceled claim 7 and further amended to recite hardware activity signals counted by the counter. Claim 10 is amended to incorporate the limitations of canceled claim 9 and to recite periodically updating the energy profile on a period of T. Claim 12 is amended to correspond to amended base claim 7. New claims 14 to and claims 20 to 25 recite the hardware events disclosed in this application at page 14, lines 7 to 11. New claims 19 and 26 recite the period T corresponding to the processing device thermal time constant as disclosed in this application at page 10, lines 15 and 16.

Claims 1 to 12 were rejected under 35 U.S.C. 102(b) as anticipated by European Patent Application No. 0 683 451 A2 by Sunakawa et al.

Claims 1 and 7 recite subject matter not anticipated by Sunakawa et al. Claim 1 recites "receiving hardware activity signals each indicative of a hardware event in the processing device." Claim 7 similarly recites "circuitry for receiving

hardware activity signals each indicative of a hardware event in the processing device." Sunakawa et al fails to teach the recited hardware activity signals. Accordingly, claims 1 and 7 are allowable over Sunakawa et al.

Claims 1 and 7 recite further subject matter not anticipated by Sunakawa et al. Claim 1 recites "measuring activity corresponding to the task to be monitored by counting hardware activity signals received during generation of said predetermined signal." Claim 7 similarly recites "a plurality of counters, each counter corresponding to one of said stored plurality of second task identifiers, each counter enabled to count said hardware activity signals when said comparator generates a corresponding predetermined second task identifier match signal." Sunakawa et al discloses at page 9, lines 53 and 54:

"In step S104, the consumption power of the acquired device is added to the total consumption power 84."

The Applicants submit that this computation of the consumption power is not an actual measurement of activity as required by the above quoted limitations of claims 1 and 7. Instead "the consumption power of the acquired device" is an energy estimate similar to that described in this application at: page 9, lines 23 and 24; page 10, lines 5 and 6; and page 12, lines 13 to 15. This language in claims 1 and 7 produces an energy measure based upon actual measured device activity rather than the static estimate of Sunakawa et al.

The idle timer disclosed in Sunakawa et al at page 8, lines 40 to 47 counts a different quantity than recited in these limitations of claims 1 and 7. The idle timer of Sunakawa et al set an idle time following a last access to a device when the device is placed in power-saving mode. This is clearly disclosed in Sunakawa et al at page 8, lines 10 to 13 which states:

"Thus at time t1, the idle timer C of the I/O unit C starts counting. If the I/O unit is not accessed from time t1 until an elapse of t (idle time), the idle timer C stops counting, and switches the I/O unit C to the power-saving mode (time t2). If another task accesses the I/O unit C during the counting of idle timer C, the idle timer C is reset by each access."

This is not a count of hardware event signals as recited in claims 1 and 7 but merely a count for setting an idle time interval before the device is switched of power-saving mode. Accordingly, claims 1 and 7 are allowable over Sunakawa et al.

Claims 4 and 10 recite subject matter not anticipated by Sunakawa et al. Claim 4 recites "periodically updating with a period T an energy profile responsive to said measuring step during operation of said processing device." Claim 10 similarly recites "said processing device is operable to periodically update with a period T an energy profile from counts of said plurality of counters during operation of said processing device." The OFFICE ACTION cites a portion of Sunakawa et al teaching updating the power estimate upon acquisition (Figure 9) or release (Figure 10) of a device. Sunakawa et al includes no teaching that such acquisition and release occurs with a period T as recited in claims 4 and 10.

Claims 6 and 12 recite subject matter not anticipated by Sunakawa et al. Claim 6 recites "performing a debugging operation responsive to said measuring step." Claim 12 similarly recites "circuitry for implementing a debugging operation responsive to a values in said plurality of counters." The OFFICE ACTION cites page 8, lines 14 to 48 of Sunakawa et al as anticipating this subject matter. In fact, neither this portion nor any other portion of Sunakawa et al includes any teaching of debugging operations.


In the absence of any teaching of debugging operations, claims 6 and 12 are allowable over Sunakawa et al.

Claims 14 to 26 recite subject matter not anticipated by Sunakawa et al. Claims 14 to 19 and 21 to 25 recite various hardware events which trigger the hardware activity signals recited in base claims 1 and 7. Sunakawa et al discloses none of these events as triggering hardware activity signals. Claims 20 and 26 recite an additional limitation on the period T of base claims 4 and 10. These claims recite that period T corresponds to "a thermal time constant of the processing device." Sunakawa et al includes no teaching of this recited thermal time constant. Accordingly, claims 14 to 26 are allowable over Sunakawa et al.

The Applicants respectfully submit that all the present claims are allowable for the reasons set forth above. Therefore early reconsideration and advance to issue are respectfully requested.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

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Respectfully submitted,

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